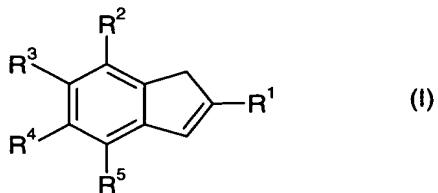


Claims

1. A process for preparing substituted indenes of the formula (I)

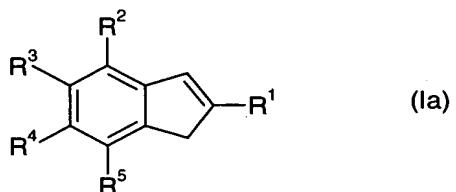
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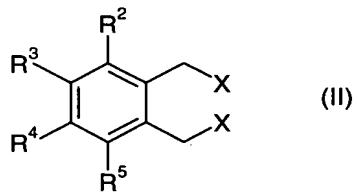
and their double bond isomers of the formula (Ia)

15



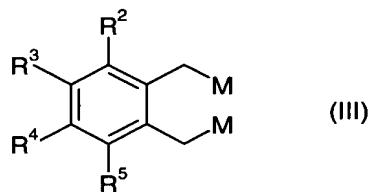
which comprises converting a compound of the formula (II)

20



into a bisorganometallic compound of the formula (III)

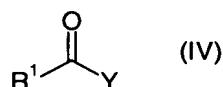
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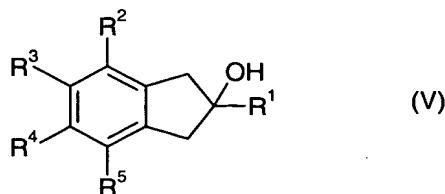
and reacting this with a compound of the formula (IV)

35



to give an indanol of the formula (V)

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and converting this into an indene of the formula (I) or (Ia) by elimination of water,
10 where

- R¹ is a C₁-C₄₀-hydrocarbon radical,
- R² is a substituted or unsubstituted C₆-C₄₀-aryl radical, where the substituents of this aryl radical are hydrocarbon radicals which contain no hydrogen atoms in α positions relative to aromatic radicals or vinylic groups,
- 15 R³-R⁵ are identical or different and are each hydrogen or a C₁-C₄₀-hydrocarbon radical which contains no hydrogen atoms in α positions relative to aromatic radicals or vinylic groups, or R² and R³ together form a cyclic system which contains no hydrogen atoms in α positions relative to aromatic radicals or vinylic groups, or R² together with R³ forms a cyclic system,
- 20 X is a halogen atom,
- M is lithium, sodium, potassium or magnesium monohalide or two radicals M together represent one magnesium atom, and
- Y is a nucleophilic leaving group.

25

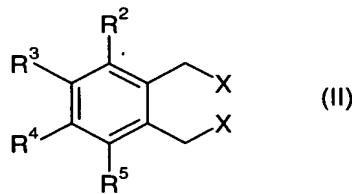
2. A process as claimed in claim 1, wherein

- R¹ is a linear, branched or cyclic C₁-C₁₀-alkyl radical,
- R² is a substituted or unsubstituted C₆-C₁₈-aryl radical selected from the group consisting of phenyl, 1-naphthyl, phenanthryl, 3-tert-butylphenyl, 4-tert-butylphenyl, 3,5-di(tert-butyl)phenyl, 4,4'-biphenyl and 3,5-di(phenyl)phenyl,
- 30 R³-R⁵ are each hydrogen,
- X is a chlorine atom,
- M is magnesium monochloride and
- Y is OR⁶, where R⁶ is a linear, branched or cyclic C₁-C₁₀-alkyl radical.

35

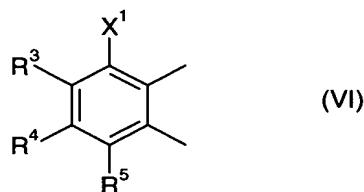
3. A process as claimed in claim 1 or 2, wherein the compound of the formula (II)

5



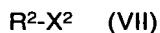
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is prepared by coupling of a compound of the formula (VI)



15

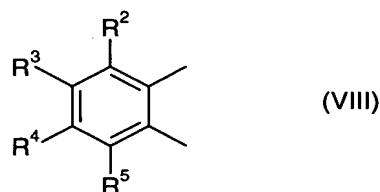
with a compound of the formula (VII)



20

in the presence of a transition metal catalyst, with either the compound of the formula (VI)
or the compound of the formula (VII) firstly being converted into a corresponding
organometallic compound, and the coupling product of the formula (VIII)

25



is reacted with a halogenating agent to give a compound of the formula (II),

where

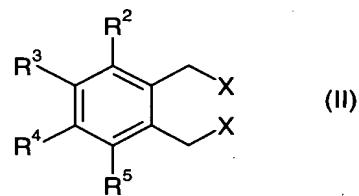
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X^1 is halogen, and

X^2 is halogen.

4. A compound of the formula (II)

5



where R^2 , R^3 , R^4 , R^5 and X are as defined in claim 1 or 2.

10

5. The use of a compound of the formula (II) as claimed in claim 4 as starting material for the synthesis of substituted indenes.